

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 12. (Canceled)

13. (Previously Presented) A temperature sensing device, comprising:

a housing;

a first temperature sensor mounted within the housing and configured to sense a first temperature;

a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature, wherein the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing spaced apart from the first surface, and wherein the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building.

14. (Original) The temperature sensing device of claim 13, wherein the first temperature is the temperature at or near the surface of the structure of the building.

15. (Original) The temperature sensing device of claim 14, wherein the structure of the building is a wall.

16. (Original) The temperature sensing device of claim 15, wherein the third temperature is an air temperature of a room including the wall.

17. – 18. (Canceled)

19. (Previously Presented) The temperature sensing device of claim 21, wherein the extrapolation function is a non-linear extrapolation function.

20. (Canceled)

21. (Previously Presented) A temperature sensing device, comprising:

a housing;

a first temperature sensor mounted within the housing and configured to sense a first temperature;

a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function, and wherein the extrapolation function includes a correction factor, and wherein the correction factor is based on estimated environmental or structural conditions of a building.

22. (Previously Presented) A temperature sensing device, comprising:

a housing;

a first temperature sensor mounted within the housing and configured to sense a first temperature;

a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature, wherein the temperature sensing device is a thermostat configured to be used with a climate control system.

23. (Original) The temperature sensing device of claim 22, wherein the climate control system is a heating, ventilating, and air conditioning system.

24. (Previously Presented) The temperature sensing device of claim 22, wherein the processor is mounted within the housing.

25.-27. (Canceled)

28. (Previously Presented) The method of claim 30, wherein the extrapolation function is a non-linear extrapolation function.

29. (Canceled)

30. (Previously Presented) A method comprising:
measuring a first temperature using a first temperature sensor mounted within a housing;

measuring a second temperature using a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor; and

estimating a third temperature from the first temperature and the second temperature using a processor coupled to the first temperature sensor and the second temperature sensor, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function, and wherein the extrapolation function includes a correction factor, and wherein the correction factor is based on estimated environmental or structural conditions of a building.

31. (Original) The method of claim 30, wherein the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing.

32. (Original) The method of claim 31, wherein the housing is configured to be mounted to a structure of a building such that the first surface is exposed to a surface of the structure of the building.

33. (Original) The method of claim 32, wherein the first temperature is the temperature at or near the surface of the structure of the building.

34. (Original) The method of claim 33, wherein the structure of the building is a wall.

35. (Original) The method of claim 34, wherein the third temperature is an air temperature of a room including the wall.

36.-37. Canceled

38. (Previously Presented) A temperature sensing device, comprising:
a housing;
a first temperature sensing means mounted within the housing and configured to sense a first temperature;
a second temperature sensing means mounted within the housing and spaced apart from the first temperature sensing means, and configured to sense a second temperature; and
means coupled to the first temperature sensor and the second temperature sensor for estimating a third temperature from the first temperature and the second temperature, wherein the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing, and wherein the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building.

39. (Original) The temperature sensing device of claim 38, wherein the first temperature is the temperature of the surface of the structure of the building.

40. (Original) The temperature sensing device of claim 39, wherein the structure of the building is a wall.

41. (Previously Presented) A temperature sensing device, comprising:
a housing;
a first temperature sensing means mounted within the housing and configured to sense a first temperature;
a second temperature sensing means mounted within the housing and spaced apart from the first temperature sensing means, and configured to sense a second temperature; and
means coupled to the first temperature sensor and the second temperature sensor for estimating a third temperature from the first temperature and the second temperature, wherein the third temperature is an air temperature of a room including the wall.

42. (Previously Presented) A temperature sensing device, comprising:
a housing;
a first temperature sensing means mounted within the housing and configured to sense a first temperature;
a second temperature sensing means mounted within the housing and spaced apart from the first temperature sensing means, and configured to sense a second temperature; and
means coupled to the first temperature sensor and the second temperature sensor for estimating a third temperature from the first temperature and the second temperature, wherein the temperature sensing device is a thermostat configured to be used with a climate control system.

43. (Previously Presented) The temperature sensing device of claim 42, wherein the climate control system is a heating, ventilating, and air conditioning system.

44. (Original) A temperature sensing device comprising:

a first temperature sensor configured to sense a first temperature;

a second temperature sensor spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to:

estimate a heat transfer rate associated with at least one of the first temperature and the second temperature; and

determine an air temperature set point based on the heat transfer rate.

45. (New) A temperature sensing device, comprising:

a housing;

a first temperature sensor mounted within the housing and configured to sense a first temperature;

a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor, and configured to sense a second temperature; and

a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function, and wherein the extrapolation function is a linear extrapolation function, such that the extrapolation function includes a correction factor.

46. (New) A method comprising:

measuring a first temperature using a first temperature sensor mounted within a housing;

measuring a second temperature using a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor; and

estimating a third temperature from the first temperature and the second temperature using a processor coupled to the first temperature sensor and the second temperature sensor, wherein the third temperature is estimated from the first temperature and the second temperature using an extrapolation function, and wherein the extrapolation function is a linear extrapolation function, such that the extrapolation function includes a correction factor.